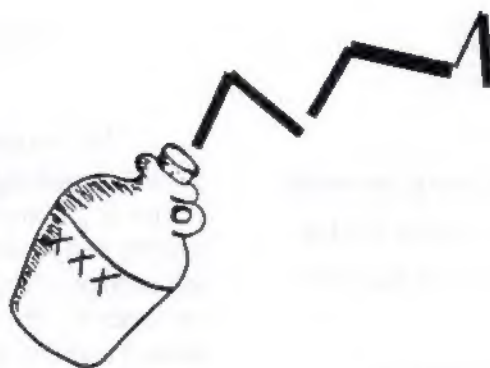


THE CONTEST

JUG



NEWSLETTER OF THE
NORTHERN CALIFORNIA
CONTEST CLUB

JGT, W6ISQ, ED., PRO TEM
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PRESIDENT: W6ISQ

VP/ CONTEST CHAIRMAN: N6TV

TREASURER: AD6E

DIRECTORS: KI6EZ, N6KT, AI6V, WZ6Z

EDITORIAL ASST: KC6NFE

HEREBY, THIS FEBRUARY 1991
ISSUE OF THE CONTEST CLUB JUG
IS DEDICATED
TO
PAT WHITTLE, AK6T

Pat Whittle was one of our esteemed members and good friends. His vitality, interest, and generous contribution of time and expertise on behalf of the Club, will be missed greatly, but also well marked and remembered by all of us who had the pleasure and privilege of working with him as editor of the JUG. NCCC can be proud of the JUG because of his direction which resulted in an ideal mix of local color and high professionalism. The Club will continue to publish the JUG from the foundation which he established. On behalf of myself and Maggi, who called Pat regularly in computer emergencies while preparing the JUG disk, and all of the members of the Contest Club, we extend our deep sympathies to his wife Judy, and his sons, Patrick and Paul. Thus with heartfelt thanks and gratitude for his notable work, we dedicate this issue of the JUG, to Pat, AK6T.

PAT WHITTLE AK6T
from Phil Fazier

On 19 January, AK6T, Pat Whittle became a Silent Key. He had lived in Danville for the last 26 years with his wife, Judy, and two sons, Patrick and Paul. Paul is now N6SCJ living in Vallejo. Pat was a graduate of the University of California at Berkeley and owned and operated the Patrick Whittle & Associates company, an industrial advertising firm, until he retired four years ago.

Pat was born in 1922 in London and began his amateur career before WW II by obtaining a British non-radiating license for antenna experiments. Pat served in the Royal Air Force, afterward operating an amateur station in Germany under a British occupation license.

Using mostly low power, he had over 280 countries confirmed. He was a member of many multi-multi contest operations at K6ZM. In the fall of 1985, he operated in the WW SSB contest from 8P9AK. Pat was a member of both the NCDXC and NCCC. At his passing, he was Editor of the Contest Club JUG. He surely will be missed by all.

NEWS FLASH

JA2IGY 14.1 MHz BEACON

What is this about beacons being desirable objects of theft?....even on opposite sides of the Pacific. Remember the W6WX/B Beacon at Stanford was stolen a few years ago.

For several months now, listeners to the Northern California DX Foundation's 14.1 MHz Beacon Net have noted that the JA2IGY Beacon has not been heard.

In a letter we've just received, and in answer to our inquiry, The JARL explained that the beacon had been stolen from its mountain-top location!!

Details will appear in the Spring edition of the NCDXF Newsletter to be published soon. This news item, courtesy NCDXF News Network.

F & F Prizes

THANK YOU HRO! Ham Radio Outlet, well-known amateur radio emporium, announced today that because this is one of the outstanding events of Amateur Radio-dom, it will be proud to donate great prizes for the winners of The First Annual F & F Tournament to be held in April at the annual Northern and Southern California DX Convention, at Visalia this year.

There are two categories, and the prizes to be awarded in each will be HRO gift certificates which may be used at any HRO.

In each category, certificates will be as follows:

- First prize for \$100;
- Second prize, for \$50;
- Third prize, for \$25;
- Fourth prize for \$15;
- Fifth prize for \$10.

THE MEETING

We had another Glorious Gathering 'round the old squeeking wagon wheel t'uther evening of Friday 18, January. Had some good palaver and chatter and a couple a fine- talking young fellas to tell us about things. One speaker was Don, G3XTT who rode his charger all the way from England (it swims) and t'uther was one of our local dudes, Howard, WZ6Z, who spoke of some recent on-the-air commentary from Lithuania. More later.

We also had the good fortune to have a couple of new hombres ride into camp. They was of such a good kind that we voted 'em into the NCCC winners circle pronto. More about them later too.

Enough of that. Now we will tell you wha' hoppin'.

The Salad Round Table

Of course, our first course for the meeting was during the salad course. That's the time when everybody has the chance to tell of their latest contest triumphs or new rigs or whatever he/she thinks would be of interest to those present. We put on this round table at this salad-eating time so no one will get carried away. We are counting on the speakers' being more hungry than loquacious. It works and we had some powerful information and data exchanges. Here are a few frinstances:

N6IP working as 7J1AGQ/2 in CQWW CW. Bob reported 70 QSOs using one watt and a piece of wire out the window. Good show!

N6EK is working on the 3-band beacon to be used in the NCDXF 14.1 MHz world-wide beacon net. His latest addition is a self time-correcting mechanism. This is based on receiving WWV, then automatically re-timing the beacon versus WWV. Neat, huh!

W6CF. Just got on packet. Is now a crusader for the system. He is looking for magazines about packet which he can save.

NH6T. Blew the final in contest. But will make up for it by building a multi-multi station high up on a Hawaiian volcano. Presume he knows which of them things is not blowing now.

AD6E. Broke 100K in CW SS for first time. Congrats Al.

W6QHS. New towers for 10-15. Found the 160 meter contest too slow!

W6ZZ. In CQWW-CW worked at AH6EE. Made 4000 Qs.. Awarded a DUB for a great performance.

W6BIP. Had N1EE at his place for fone SS. 850 Qs. In CQWW-CW had a fire in his amplifier final. What is that they say about snow on the roof but fire in the transformer.

W6OAT. Says everybody should get in upcoming Sprint. (Did I ever tell you about my first experience in Sprint? And Rusty got me into that one, too). He's right though. Everybody ought to try it.

W6DL. Not NCCC member, but enjoys the NCCC fellas and our meetings. See elsewhere in the JUG for new membership category for Eric.

W6RGG. CQWW-CW at N6RO. The operators blew four finals! Station manager, LOU, K6TMB, was not present to give us his explanation about how four finals got blew up. The general statement from the ops is that it was... ahhhhhh.....a PG&E voltage spike. Hmmmmmm.

The Speakers

DON FIELD, G3XTT, whom you all have worked many times in the contests over the years, and may also have met at Visalia, spoke to us about his recent contest operations from Jersey and Guernsey. Don is the president of the Chiltern National DX and Contest Club, which is the only DX and Contest club in England. Most of the "G" contesters you talk to in the various contests are members of this club. Don was also co-editor of the DX Newsheet for many years. That was the old Goeff Watts Newsletter, I think. He is also very active in IOTA affairs, a favorite activity in Europe and many Easy (sorry East) Coast US ops. (We'll talk about that sometime). Don will soon be working with "Top Band", the 160 meter Newsletter started by the late Stu Perry, W1BB.

Don worked with the groups at both GU6LW and GJ6UW. He told us of one problem

he had with the Guernsey operation. He had a wire antenna strung off a high tower that also held the TV antennas for the island. So, he not only got into local TV sets, but also, into every TV set on the island!

His most recent effort in CQWW-CW on Jersey was a multi-multi affair which set out to break the European record of 13 milli-yun. They did indeed with a score of 13.2 milli-yun. Thanks, Don for a most enjoyable slide show and lecture.

Howard, WZ6Z, played a tape he made of broadcasts from Lithuania the night the troops moved into Vilnius. The two Lithuanian stations which were involved, were LY2WR, who was inside the parliament building, and contestor, LY2WW, who was outside the city. As the skip moved across the U.S. and signals began to drop, Howard telephoned ON4UN, who then took over and relayed the broadcasts for U.S. listeners. Read Howard's story elsewhere in this issue. It was fascinating happening.

TROSTEROSTER

Lessee who made the Trosteroster this month.....

I can't believe this, but BOB, W6RGG, made the list again this month because of this remark: Trey, WN4KKN, in applying for NCCC membership stated his "99% CW use". Bob's comment, "Kinda wishy washy, Trey".

Al, AD6E, NCCC Treasurer, joined the Northern California DX Club at their last meeting. Congrats, Al. And if you other NCCers are not NCDXC members, you might be interested in joining the DX chasers. NCDXC is the oldest DX Club in the world and a nice group of folks.

Reminder. The NCDX Club has a fine club meeting on the air each Thursday at 2000 local. That's 8pm to you landlubbers. Propagation discussions, QSL info, swap shop, etc. Nice program. Tune in. 147.36/96.

Back to BOB, W6RGG. RUSTY, W6OAT, brought the crowd to their feet with the announcement that W6RGG had just been elected unanimously to the Royal Order of Ferrero....ahhhh...maybe that was Firenze....oh, I know, Royal Order of Faraday. Anyway, Old Bob just retired. He announced his first little job around the house would be to remove that hill between his antenna and Europe. Congrats, Bob.

MILLI-VANILLI. Those of you who read your January JUG may remember there was a "Big Question". It asked:

"If a **billi-yun** is 10 to the ninth and a **milli-yun** is 10 to the sixth and a **killi-yun** is 10 to the third, then what is a **Milli-Vanilli**?"

Here are a couple of DUB-winning replies:

BOB, N6IP. "A milli-vanilli is a (big, fat) zero.... of course. You knew that, didn't you?"

HARRY, NT7E, from Reno, Nevada.

Living on wrong side of California precludes me from attending every opportunity to obtain one small DUB. In spite of this....I must respond to your question about the milli-vanilli. After much research, using my own IBM main frame, I believe that the correct answer is $MV = 2 \times 10$ to the BS. (too bad that packet cluster does not support superscripts!).

Now, the correct arithmetic in the above two claims for a DUB escapes me. I will turn over the entire matter to my personal arithmetician, PROF BOB, N6EK, and ask him for a vigorous and also rigorous verification. Could both solutions be correct?

I am a trusting soul, so, I'll tentatively award both submitees a DUB. I'll have to mail one to NT7E, but N6IP already ate his at the meeting. If IP's answer is judged to be incorrect by PROF BOB, he will owe me one DUB, plus interest of one walnut.

Thanks for those stimulating answers. Keeps

this newsletter alive and exciting.

BIP, W6BIP received his QSL from Mount Athos on 18 January. It was for a QSO in 1980!!!! That will teach you young squirts to hang in there.

DAVE, W6QHS distributed his popular 1991 Satellite Transmission Systems calendar again this year. If you missed this one, or were not at the meeting, give Dave a call. I believe he would be glad to bring you one at the next meeting

#

Hello WAYNE, N7NG, way back there in beautiful Jackson, Idaho

#

BOARD OF DIRECTORS MEETING

Your Board of Directors met 22 January at 7pm at home of W6ISQ. Present were AD6E, W6ISQ, N6KT, N6TV, WZ6Z. Present but not voting or even commenting were Marsha, XYL of WZ6Z and cook Maggi, KC6NFE.

1. The Board decided that a donation to a radio organization would be an appropriate memorial for Pat Whittle, AK6T,. We therefore, are sending a \$100 donation to the Northern California DX Foundation in Pat's memory.

2. In addition, on motion of N6TV, seconded WZ6Z, the BOD voted to establish a Pat Whittle Memorial Plaque to be given to future editors of the JUG upon their retirement as editors. Recipients must have served for at least one year to be eligible for the award.

3. Major discussion was given to the forthcoming Contest Forum at Visalia. We are working to cover four or five timely topics in a diverse but balanced program. N6TV will assemble the units of the program and report his plan at the February BOD meeting.

4. MARK YOUR CALENDAR. Next

4. **MARK YOUR CALENDAR.** Next NCCC meeting will be 22 February, that is the **FOURTH** Friday in February. Our usual third Friday is the 15th, which is the first evening of ARRL DX Contest. Sorry about that. ARRL did not check with us before they scheduled their contest.

5. Voted unanimously to re-instate K6XV to membership. Congratulations.

6. Rich, N6KT, will head the nominating committee for club officers. Please contact Rich with your suggestions.

7. After several rounds of DUCCs (Delicious Undercooked Carrot Cake), voted to adjourn about 9:45.

de J. G. Troster, W6ISQ, Acting-Secretary

YOU ALL OWE ME

Remember in the last JUG I said I was going to pass around a paper for you all to write down who the club officers were in past years? Remember that? Well, you forgot to remind me at the meeting. I cannot be expected to remember everything. Right.

It is time for you to start bearing your responsibilities for remembering things I forget. We lost a whole month's action in making that list of past officers. Your fault. Shame on you.

So, each and every one of you owes me one DUB

Science may never
come up with a better office
communication system,
than the coffee break.

(Courtesy Pip Printers)

SCORE GUESSING

At the November meeting I passed out a blank page and asked everyone to write down their call and their guess of what score they would make in CQWW-CW.

Last meeting we passed the same paper around again for the contestants to write down their actual scores. Many of the ops were not present this time, but here's how those present stacked up:

SCORES	GUESS	ACTUAL	DIF
WZ6Z	2M	1.9	-100K
N6EK	1M	1.15M	+115K
N6TVKH6	5M	5.6M	+600K
WOZZ	6M	4.4M	-1.6 M
AA6QY	1.1M	187M	(lots probs)
SPECIAL CATEGORY			
N6IP/7J1AGO/2	100+	6.3	(betr than hoped)

I think I awarded DUBS to WZ6Z and N6EK. Can't remember. Howard and Bob--did I? Or do I still owe ya?

NEXT MEETING

FRIDAY----FEBRUARY 22

Wagon Wheel Resaurant

SPECIAL PRICE FOR NCCC CLUB

\$14.95 including tax and tip

Beginnings about 6

Eatings about 7

Program Speaker

BRUCE SWEARINGSEN N6TU

with a slide show of his recent journeys
to

Greece and Saudi Ababia

Also featuring Salad Round Table wherein our worthy members tell of their own exciting adventures in yon recent contest.

SEE YOU ALL THERE

A NEW KEYS

I told my old friend W6RQ—let me restate that—my friend of many years, W6RQ, that I had acquired an automatic keyer and could now consider myself promoted one notch in the ranks of Casual Contesters. "Congratulations" says Al, "I've been using one for years, but not in contests. With under 100 W and a dipole, I usually have lots of time when I call a DX station. The rarer the station, the more time I have to call. So I get a good book and my auto keyer and settle in for the long haul. I just read and punch the button. If I'm reading a pretty good book it may get embarrassing because the local DXers start calling me on the two meter net or on the phone saying that the DX station is coming back to me but I keep calling him...is my receiver ok? "Naw, just a good book!" Al is a FOTN4C member. See later.

NOTE FROM RON, W6VG

After enjoying ham radio for over 60 years, I decided to put something back into it. So I signed up to be a Volunteer Examiner starting Saturday, February 16. I attended the NCCC January meeting in Mountain View, and got fired up to get in AARRL CW DX Test February 16, 17, 1991. Finally, I managed to get the Apple computer to work to my satisfaction in the "Contest Logger" mode. Then I checked my calendar and saw that both events fell on February 16. It seems that each year I mark my calendar for the DX Tests, and then something "REAL important" comes along. I don't always agree on the "Real important" but I give in.

In 1976, I was out on Roi Namur (KX6DC) and had no "Real important" events to bug me. So once in my life I could operate a CW DX test with no, NO, outside obligations. What a dream, 2 beams at 110 feet, KX6 prefix, and no one to tell me to get off the air. ZK2RU (Niue Island) in 1981 was almost as good, but I was stuck on ten meters

while Cam Pierce, K6RU, and Bruno, AA6AD operated the other bands.

Ed. note: Ron, maybe we should go multi-single. Then you could have your Volunteer Examiner job and get fired up too. You get the all night shift! W6ISQ

CONFESSIONS OF A CASUAL CONTESTER FOTN3C-----FRIENDS OF NCCC

Non-member, Eric, W6DU, offered a nice comment at the last meeting. He said he was not an avid contest. Maybe one or two or even three contests a year was all he really got involved in, and then just in a casual manner. He did not enjoy a solid weekend of contesting. Several hours per contest day would just about fill his cup.

However, Eric did enjoy the state-of-the-art equipment interests of contesters, their enlivened conversation and the stimulating conversation at the meetings...and, of course, the members themselves. In short, Eric is a dedicated Friend Of The Northern California Contest Club.. he's a FOTN3C.

Gung Yo Interests

If Eric were to join NCCC, he would yield his status as a FOTN3C and move into the ranks of the average NCCC member.....a GUNG YO contestant, maybe working a few more contests per year, but still at his own pace. Aren't most of us GUNG YOers? I, myself, am in the GUNG HO-YO category, somewhere between a Ho and a Yo. That is, if I get to liking the contest I may just hang in there and plug away a lot more than I had planned. It has also worked the other way, and I have shut down operations after a few hours if things cease to be fun. I'm a YOer.

NCCC By Laws say "all new members must demonstrate an interest in contests" That's all. No mention of how many contests per year or how many how many hours per contest.

There are perhaps some out there who would enjoy FOTN3C entry level status with the NCCC, kind of a chance to look us over. Let's see if we can find them out there and invite such friends to a club meeting. That is, expose them to the members with their enthusiasms, and wild tales of battle on 15 meters. Perhaps those friends would become FOTN3C folks. And from there, perhaps they would like to take the leap in membership and Gung Yo status.

Expose a friend to the joys of FOTN3C. A DUB to everyone who brings a prospective FOTN3C'er and another to his/ her/ its/ buddy too!

HAMS GET THE WORD OUT ON LITHUANIA de WZ6Z

For many, ham radio's finest hours are those spent rendering public service, especially in times of emergency. During every major disaster of the last fifty years: earthquakes, tornados, hurricanes, floods, fires and crashes, hams have provided the emergency communications that are so often not available by other means.

On the night of January 12th, ham radio found itself playing a new role. On that night, the Soviet army invaded Lithuania. As is their usual procedure, the army first took control of the radio and television transmitters in an attempt to keep the world from getting the real story about what was happening. But as the tanks rolled in to Vilnius, there were still radio stations broadcasting. They had different callsigns though; they were hams. One operator, Gintas, LY2WW, a well known contester who had visited the U.S. just last year, set up an emergency communication channel on 20 meters. His signal was very strong in the U.S. and he acted as the control

station in Lithuania. Also present was LY2WR, operating on battery power inside the Lithuanian parliament building. This station's signal was also very readable in the U.S., although not as strong as LY2WW. This operator was able to pass the microphone to various ministers of the Supreme Council of the Republic of Lithuania as they gave their reports on what was really going on. Their hope was to reach the press and the governments of the world so the truth would be known about the invasion.

Hams all over the United States quickly took up the charge. George, W6SUN, near Sacramento acted as control station on the American end until about 0530Z. He kept the frequency clear and repeated back to the Lithuanians everything they said to be sure it was received accurately and completely. This also allowed other U.S. hams, who may not have been receiving the Lithuanian signals well, to get each report.

Hams in the U.S. and Canada then set up contacts with various members of the press, including local television stations, CNN and the CBC in Canada. One ham made contact with the State Department in Washington and gave them each report as it came across.

The initial reports were mostly updates on the number of dead and injured. At 0500Z, the Minister of Health reported that a 13 year old girl had been found dead, run over by a Soviet tank. Gintas reported that some 400,000 people were in the square outside parliament, singing and praying. The tanks had stopped advancing, but Soviet paratroopers in civilian clothes, with automatic weapons and bulletproof vests, were now mingling in the crowd. Another report came from Taurage, a city about 250 kilometers west of Vilnius, saying that two buses had just left the military base there, full of people carrying machine guns, but dressed in civilian clothes. They were heading for Vilnius and were suspected of being KGB.

Another ham in Kaunas, the second largest city in Lithuania, reported that Soviet troopers were moving toward the radio station building. The station was still broadcasting in defiance of the army order to stop.

Around 0530Z, signals from Lithuania started to fade on the West Coast, and there was great fear that we would lose this important link. The Lithuanians were now expressing their belief that they would soon be arrested or killed, and their

Parliament was busily trying to establish a legal way to transfer power to their Foreign Minister, Algirdas Saudargas, who was in Poland.

I had been monitoring this amazing event since about 0200Z, when I had turned on the radio hoping to find YA0RR, who had been eluding me for days. There was nothing I could do to help, so like hundreds of others around the world, I sat by, listening (and recording). When there was finally a way to help, I jumped at the chance. W6SUN was starting to lose LY2WW, but he was still strong at my QTH, so I offered to assist. We decided that we needed a strong European station to help relay messages, so I phoned John, ON4UN. After giving him a quick rundown on the situation, he was on frequency in no time. As usual, his signal was S9+20 here, and he was able to copy the LY stations off the back of his beam.

At 0630Z, the parliament issued "The Law of the Republic of Lithuania on the Government of the Republic of Lithuania in Emigration." This law stated that due to the "open, armed aggression" by the Soviet army, the legal government could no longer perform its duties, and in fact, the very existence of the country was in danger. It went on to create a "Government in Emigration", headed by the Foreign Minister, and delegating to him the right to appoint the members of the new government and diplomatic representatives.

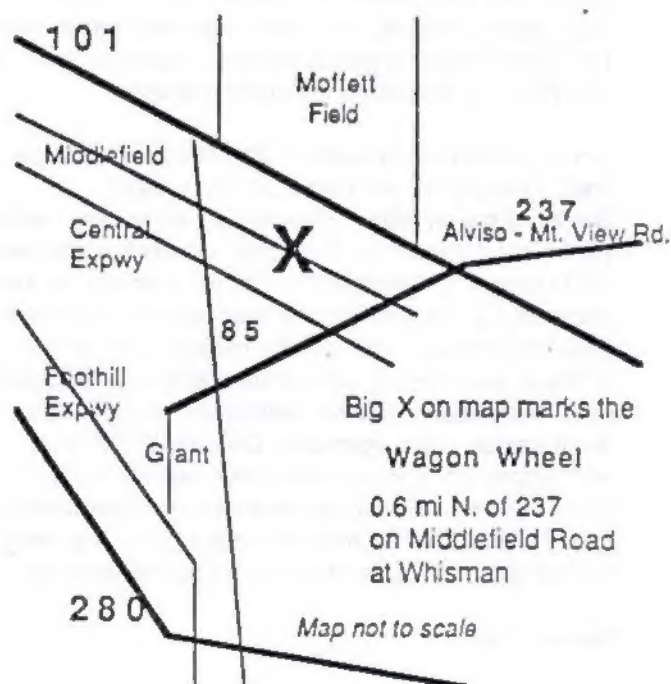
This important document was transmitted directly from the Lithuanian parliament, via LY2WR, to ON4UN in Belgium. John then relayed it to Doug (K1DG) in New Hampshire. By this time, I was only able to copy 20-30% of each transmission from Europe, so I called K1DG by phone and got the rest of the message. I then called the Baltic Working Group at the State Department to give them the news. I had been working with them for the past hour or so, and they were hungry for information. They had few sources inside Lithuania and had been depending on hams for the past several hours to keep them updated on what was happening. I passed along the wording of the proclamation and various reports about troop movements, injured persons, requests for medical supplies, and reports of demonstrations being planned for the next day.

Finally, when 20 meters was completely closed between Europe and California, the State Department telephone number was relayed to hams

in New England, and the vital communications link was maintained throughout the night.

It was interesting to watch the broadcast news during these tense hours. In the late afternoon, they had only the "official" news coming from the Soviets. And when conventional communication channels were cut off, they had nothing new until the hams made contact with local radio and TV stations. Then, as the news came in over ham radio, each network would update its report, usually lagging behind by forty five minutes to an hour. But, they had the real story. And they did a great job letting people know what was actually going on. If the Soviets thought they could use the distraction of the Middle East tensions, and their blockage of conventional radio and television communications, to keep the world from knowing the truth about their bloodshed, they had made a big mistake.

The callsigns I noted on the frequency that night were: LY2WW, LY2WR, ON4UN, W6SUN, K7LR, N6TV, WA1URA, K1DG, N4ZC, NW3Y, WA6EUZ, and VE7VQ. It's interesting to note that the serious passing of traffic that went on late in the evening was all handled by contesters: LY2WW (operated by Gintas, LY2BKW), holder of the European record in our own CQP contest; ON4UN, winner of numerous CQWW and other contests; K1DG, who is K1AR's brother-in-law and team mate in winning the Goodwill Games last year (and he's on the cover of this month's CQ); and myself. Our VPCC, Bob, N6TV was also in there relaying traffic during the night. It seems those contest skills are good for other things, too!!!



MORE ON THE VISALIA F & F TOURNAMENT

ARE YOU READY??

I wore my F & F badge to the last meeting. It had been crafted by Master-Of-Almost-Everything, W6CF, who could not attend, but wished to display the button. He plans to distribute these buttons to all who participate in the Tourney.

The button was supposed to create interest in the F & F. And it did. As soon as attorney Rusty, W6OAT, saw my F & F Badge, he began his cross examination. Standing there also was Patti, N6BIS, who must be taking Rusty lessons, because she jumped in on the cross-examination too.

"Where did you get that button? What does the first 'F' stand for. Why did you chose those colors? Why did you make it two inches across. What do you have to do to get one a these? What kinda contest? Can you do this standing up? What kinda prizes? Who thought that up? Give us a hint.

Actually, I was wearing the badge because W6CF is in the button making business as a side line and wanted the publicity. Also I forgot what the first 'F' stands for. They didn't ask about the second. Just foolin.

Which Brings Up...The First Annual Visalia F & F Tournament

As announced last month, Mr. Robert G. Ferrero, W6RJ, has graciously accepted the job of Chief Referee. He is eminently qualified for this challenge having participated in numerous DXpeditions to rare and difficult-to-reach locations including the first Kingman Reef DXpedition. Mr. Ferrero also has been a frequent winner over the past three decades of various contests. He is most recently recognized from his BIG Sig on 80.

Upon acceptance as the chief crowd-controller of this donnybrook, Mr. Ferrero immediately went into intense physical training and announced that he, himself, would also

participate in the Tourney.

If Mr. Ferrero reaches the finals, he would relinquish his Chief Ref position to Mr. Kenneth Anderson, K6PU, Alternate Ref. Mr. Anderson also went into physical training, but after viewing secret tapes, our scouts tell us Mr. Anderson has as much chance of qualifying for the finals as W6ISQ has of winning CQWW.

Mr. Ferrero told the JUG, "I know I got a job to do out there and I'm going out there and do it."

Mr. Anderson told the JUG, "I know I got a job to do out there and I'm going out there and do it."

Clues Next Month.. Oh well, I'll give ya one this month. Finals for the Tournament will be held after the Big Banquet in the bar room across the hall. What does that tell ya? And what about them neat prizes mentioned up front? Stay tuned!

WELCOME ABOARD

It is a great pleasure to announce that we have two new members this month: REG OLSEN NH6T, and TREY GARLOUGH, WN4KKN. Welcome, fellas, we're glad to have you with us.

AND IN CONCLUSION

Well, here it is, the February edition. Yes, we finally finished our contract to write one page this month. We hope Pat would approve.

But I do want to thank XYL, Maggi, KC6NFE for her computer courage. If she had not persevered, you likely would be reading your JUG written and copied in long hand script. Pledge. I will learn to turn on the computer before next issue.

Work hard and73, Jack. W6ISQ

So what's next, Boss?

CONTEST UP-WRAP

de N6TV

1990 was the year the NCCC fired up the old engine and proved that it can still compete in any contest of its choosing. So, what's next for the NCCC? Nothing has been decided, but I'd like to propose that once again we set our sights on winning the 1991 CQ World-Wide DX Contest. Why am I talking about this now? Well, in order to win we are going to need one or even two BIG multi-multi DXpeditions, in addition to in-territory multi-multi and multi-single stations. This takes planning. Licenses have to be obtained, equipment and airline tickets purchased, passports acquired, etc. If we get an early start by planning now, our chances of winning will be much better. Let's have a little open discussion on this issue at the next club meeting. Let your views be known!

A reminder: if you are a dual member of NCDXC/NCCC, please submit your ARRL DX contest scores for the NCDXC as per our long-standing agreement. This helps NCDXC compete against SCDXC for the California club championship given at Visalia. Watch the DXer for information on reporting your score to NCDXC contest organizers.

NCCC-only members should of course submit scores towards the NCCC club total in the 1991 ARRL DX Contest. Just send a copy of your summary sheet to: Robt A. Wilson, 51 Cheltenham Way, San Jose, 95139-1257. I will see that they are duly reported in the JUG and credited towards our 5-million-point award tabulations. This applies to all contests.

1990 CQ World Wide Wrap-up

38 SSB entries: 79,932,018
45 CW entries: 59,987,445

NCCC Total,
83 entries: 139,919,526

Not bad for a West Coast club!

1990 Sweepstakes Wrap-Up

18 CW entries: 1,829,078
10 SSB entries: 1,403,696

NCCC Total,
28 entries: 3,232,774

Last year's total: 1,918,644

Additional SS SSB score received:

Call	Qs	Sec	Score
NC7K(+pkt +2m KZ4H/7)	1716	77	264264

for a new Nevada multi-op record, beating WA7NIN's 1987 record score by 100 QSOs. Congratulations, Tim!

Additional CQ WW scores/corrections received since January JUG:

Call (CW)	Qs	Zs	Cs	NCCC Points	Cat
G3S2A(+AA6MC)	2128	120	377	1244985	M/S
ZK10M(N6OM)	403	75	102	196293	S/O
NU6S(at WC6H)	1654	278	128	1931748	S/O
N6DA	1055	118	240	1056100	S/O
NC7K	829	127	296	984774	S/A
N6JL	569	75	177	415044	S/O
W6NV(WB6SHD)	897	33	103	325176	10m

Call (SSB)	Qs	Zs	Cs	NCCC Points	Cat
W6NV(WB6SHD)	1917	39	139	977389	10m

Additional ARRL 10-Meter Contest Scores

Call	Qs	Ms	Score	Categ.
W6NV(WB6SHD)	3226	144	929086	Phone
K6HNZ	2130	141	600660	Phone

Additional ARRL 160-Meter Contest Scores

Call	Qs	Ms	Score	Categ.
NC7K	94	29	5452	S/O

CQ 160-Meter Contest Scores

Call	Qs	Ms	Score	Categ.
N6TV	243	54	10996	S/O

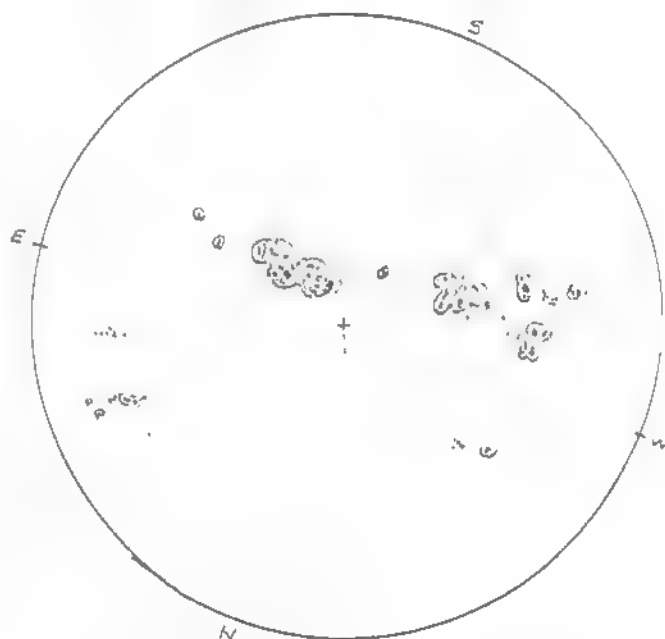
Here are the point totals for the 5 Meg Award. There are several of you who are getting very close so keep those summary sheets coming to N6TV. That's the only way to get points added in. Remember, any and all contests count so long as you operated from within club territory. Perhaps we'll have several new members in the 5 Meg club by Awards Banquet time.

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5 Million Point Award Standings

1	WA6VEF	18,489,368
2	K6HNZ	18,071,246
3	K3EST	14,606,489
4	N6RO	14,460,564
5	N6IG	13,588,064
6	WZ6Z	12,063,323
7	KI3V	11,447,054
8	K6TMB	10,822,825
9	NC7K	10,701,532
10	N6EK	10,654,492
11	WA6AUE	9,933,822
12	N6TIB	9,223,833
13	WX6M	7,151,449
14	NU6S	6,810,511
15	W6FSJ	6,750,879
16	VE2AQS	6,727,190
17	AD6E	6,357,516
18	AJ6V	5,088,536
19	W6BSY	4,710,614
20	N6KT	4,537,248
21	W6ISQ	4,520,188
22	AI6V	4,505,144
23	N6CCL	4,388,926
24	N6TV	4,274,840
25	K6ZM	4,178,592
26	KI6EZ	3,761,215
27	W6BIP	3,727,135
28	N1EE	3,507,176
29	VE7NKT	3,260,081
30	NB6L	3,132,713
31	NP4IW	2,982,741
32	KI6CG	2,851,615
33	K6MA	2,776,609
34	WC6H	2,569,908
35	K4UVT	2,506,545
36	N6GG	2,341,742
37	K6SIK	2,257,137
38	WR6R	2,194,805
39	K6XO	2,136,965
40	W6SZN	2,085,426
41	W6RGG	2,061,453
42	W6OAT	1,927,944
43	WB6MZQ	1,807,323
44	K6PU	1,774,867
45	KS6H	1,633,182
46	N6BT	1,575,210
47	K6HIH	1,402,635
48	N6VV	1,366,187
49	NV6Z	1,323,315
50	AG6D	1,293,107
51	N6EE	1,207,690
52	K6PJY	1,153,207
53	N6DA	1,147,300
54	WC6I	1,048,362
55	W6XX	988,083
56	NX6D	890,127
57	K6LRN	749,739
58	N6TU	718,198
59	W6OSP	631,469

60	NF6S	624,074
61	KF6VU	624,074
62	NT7E	526,820
63	K6RK	513,307
64	W6VG	423,612
65	N6JL	415,044
66	KI6YB	350,908
67	K6KLY	330,453
68	N6OM	328,464
69	N6BIS	323,595
70	KJ6LD	318,045
71	K4TKM	309,080
72	W1FEA	290,056
73	KA6ING	284,715
74	K6WJ	282,384
75	N6ZB	260,739
76	WU7Q	252,900
77	KN6K	245,797
78	W6RJ	228,517
79	W6EEN	228,047
80	AA6QY	225,746
81	K6MO	213,086
82	W6QHS	210,749
83	W7XA	198,404
84	K6CSL	189,554
85	W6WB	184,920
86	KA6W	181,355
87	KJ6FD	164,008
88	AA6T	158,115
89	WA7NIN	124,616
90	W6FAH	113,909
91	WA6SDM	93,854
92	CE3AQI	88,491
93	W6MFZ	87,968
94	WA0SDM	72,782
95	WW6D	71,186
96	K6KM	59,806
97	KA6LAF	53,400
98	W6KZJ	32,980
99	K6YT	28,905
100	WB6DSV	28,620
101	WA0YQM	24,680
102	W6CF	24,108
103	N6XI	21,749
104	W6SYL	21,351
105	W6DPD	11,016



HISTORIC SUNSPOTS. de WCRQ
 Highest activity since Nov. '70
 31 Jan 1991, 2000 UT. SF=307, $\alpha=00$

LOW COST, HIGH RELIABILITY INTERFACE BETWEEN KENWOOD SERIAL PORTS & "CT"

By Bob Wolbert, N6IP

Introduction

The magic of "CT" in its basic form, working with a generic radio, is astounding. Dupe and partial checking in milliseconds, displaying running scores, instant (sometimes) determining of countries and zones, and, of course, log printing and error-free scoring at the end of the contest. On-screen packet spots increase the versatility of this marvelous software system. The memory keyer likewise increases its usefulness. The *coup de Gras* is CT's integration of logging/duping/scoring, packet spotting, and CW memory keying with rig frequency control. Most of you know this already. What you may

not know is that with the low cost, high reliability interface described here, you can save the \$100 that Kenwood charges for their RS-232 converter plus whatever N3JT charges for his keying interface while building a fully integrated contest station.

This one-transistor interface can be easily built in an evening, and provides full compatibility with the IBM PC and Kenwood radios (TS-140, TS-440, TS-850, TS-940, and TS-950). Better yet, no external power supply is required.

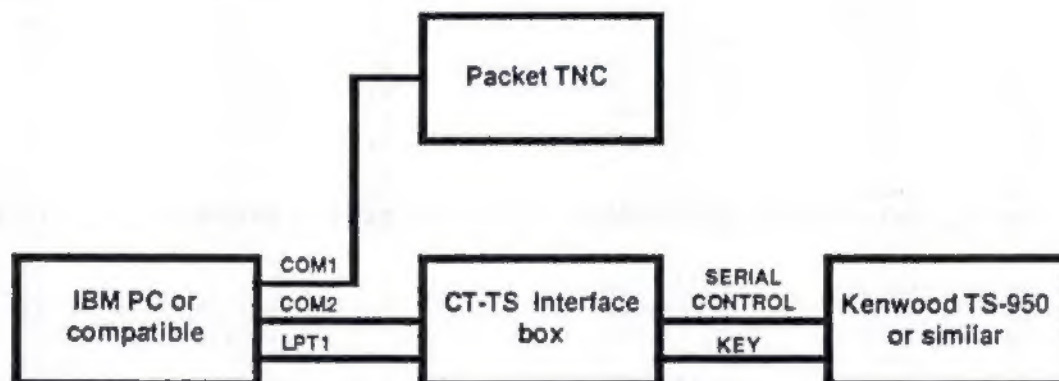


Figure 1. The computer commanded contest station.

The Kenwood IF-232 Interface Box

For about \$100, Kenwood will gladly supply you with an interface box that allows connecting your serial-compatible rig to a PC. Inside this box is about \$2 worth of components (in manufacturer's quantities—maybe \$8 in low volumes) which provide three functions:

- TTL to RS232 Line Driving & Receiving
- RFI Isolation
- Power Supply

Four lines (plus ground) are connected: $\overline{\text{TXD}}$ (Transmit Data, inverted), $\overline{\text{RXD}}$ (Receive Data, inverted), RTS (Ready To Send), and CTS (Clear to Send). For RFI isolation, Kenwood employs optoisolators and separates radio ground from the interface box chassis ground. Interface and computer grounds are common.

Double inversion is provided, so the input signals are the same sense as the output signals, merely isolated and level shifted.

EIA RS-232C

The most common serial port used in computers is the RS-232C. It controls modems, mice, and some printers, for example. Specifications standards denote that the line is driven with differential voltages ranging from $\pm 3\text{V}$ to about $\pm 15\text{V}$. The current and voltage levels are such that 15m of cable can be reliably driven at over 19.6kbps. As far as we are concerned, this is tremendous overkill for our application at 4800bps and less than 15 feet. Thus, we can take great liberties and still maintain reliable communications.

The line drivers and receivers almost universally employed for TTL level (0V to +5V) to RS-232 (-3V to +3V through -15V to +15V) level conversion are the 1488 and 1489A. These integrated circuits are inexpensive and available from numerous sources; even better, is the fact that every other solution for this application is 100% compatible with the 1488/1489A as well as compatible with RS-232 specifications. This passive interface exploits this subtle difference.

The 1489A line receiver uses a diode clamp to limit the negative swing of the differential signal. It simply clamps the negative voltage to about -0.7V internally.

It turns out that the "Low" voltage threshold is about +1.0V—in other words, a negative voltage is not even necessary—0V or +0.9V will provide a logic low as certainly as will -15V. Combining this fact with Kenwood's double inversion design means that we must only limit the positive and negative voltage swings of the RS-232 line for protection of the TTL parts. Clamping the voltage to about +5V and 0V (or -0.7V) will serve. Also, the TTL outputs of the Kenwood interface, which have 1k Ω pull-up resistors, provide sufficient swing to drive the serial line receivers directly. The four line converter can be as simple as this:

RS-232 Cable to PC Serial Port (DB25F Connector)

Kenwood 6-Pin DIN

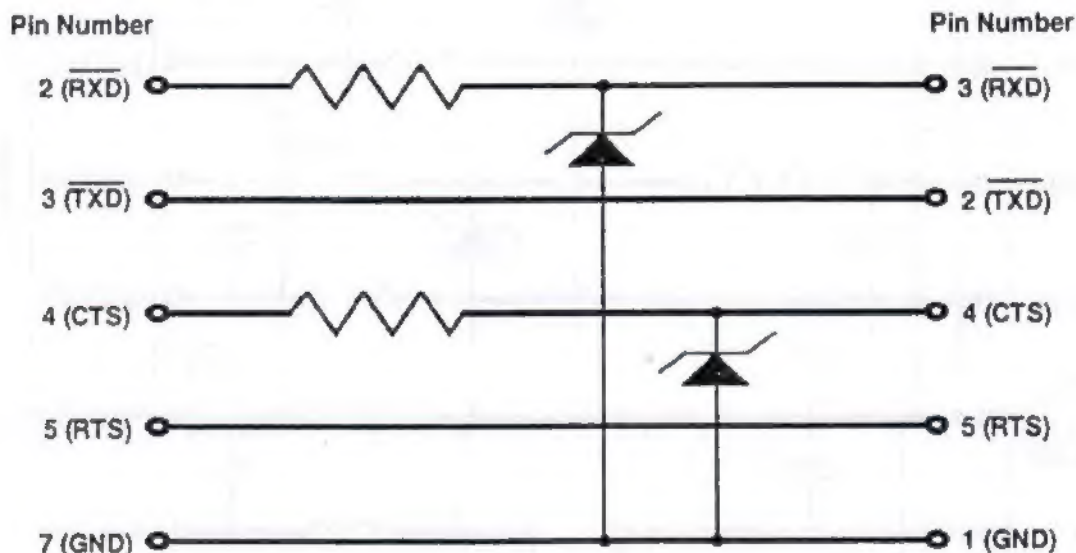


Figure 2. The simple interface.

Full functionality is achieved with this circuit, although some computer noise is injected into the rig. Add pi low-pass filters to isolate the rig from the PC. The computer and radio ground connections are isolated at RF by an encapsulated choke. The other lines have 0.01 μ F disc ceramic capacitors from each input to their respective ground, plus a series encapsulated choke.

The guys that design computer buss' for a living might be in cardiac arrest at this point, but heck, it does the job, is simple (hence reliable), cheap, needs no power, and does not raise receiver noise level. But it does not key the rig: K1EA provides this necessary information in his manual.

CW Keying Interface

Although I have 4 serial ports on my AT, I was forced to use the printer port for CW keying. Maybe K1EA will correct this situation in a later release, but as of version 6.25, CT will not properly address the low cost serial boards widely available. CT uses interrupts IRQ2 and IRQ5 for serial ports 3 and 4, whereas the low cost serial boards only respond to IRQ3 and IRQ4. This leaves me with two compatible serial ports: one for the packet TNC, the other for rig control. Fortunately, K1EA allows keyer output from the printer port. A separate three line cable connects the PC parallel printer port to the interface box, and a miniature coax cable connects to the key jack of the rig. (I hate alliterations, don't you?) This circuit uses the only active device in the entire interface, the keying transistor.

The complete schematic is shown in Figure 3.

Layout and Construction

The major consideration for this low frequency, low voltage circuit is RF noise control. We must isolate the computer-generated digital noise from the receiver, and keep RF power away from the computer. I used two separate grounds, one for the rig, the other for the computer. Gluing two strips of PC board material to a piece of perf board provides two ground surfaces plus mounting space for the components.

Layout is simple; remember your primary goal is RFI reduction. Do not neglect the bypass capacitors, and do not stack the solenoidal chokes close together. The zener diodes return to computer ground. Operationally, precious little can go wrong.

Obviously, no buffering is provided with this passive interface, so do not expect to run cables for miles. I put my interface about midway between PC and rig, with a total cable run of about twelve feet, with good results.

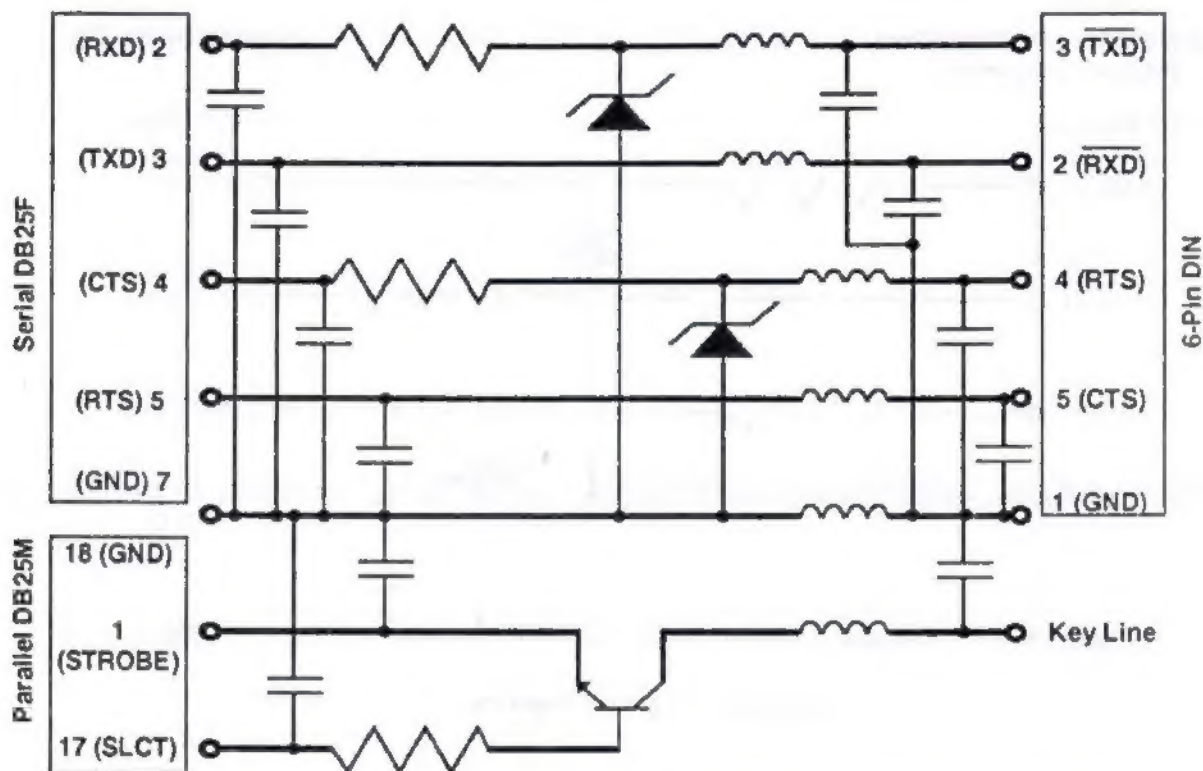


Figure 3. The completed interface, with noise reduction measures and CW keying.

Parts List

Device	Quantity
NPN Transistor	1
Zener Diode, 3.5V to 5.1V	2
4.7k Ω Resistor	1
1k Ω Resistor	2
RF Chokes (value not critical)	6
0.01 μ F Disc ceramic capacitors	9

Connectors:

6-Pin DIN (Rig)	1
DB25M (Parallel port)	1
DB25F or DB9F (Serial port)	1

